

# Identity and economics

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## Questions:

1. Is group identity relevant for economics?
2. Is identity good or bad?

## Outline:

1. Part I: theory.
2. Let us play!
3. Part II: experiments on identity and economics

If we consider the standard economic agent of microeconomics, social identity should not matter. However, people perceive to belong to social groups and this gives them identity:

1. Incentives related to membership to groups
2. Prejudices or cultural stereotypes
3. Something more?

- Material incentives associated to cultural/language difference
- Payoff structure → group conflict
- Policies that favour/disfavour certain groups → foreigners, positive discrimination, etc.

Being part of a group can change the budget constraint of individuals. Is this type of influence really related to identity?

Prejudices or cultural stereotypes can change how we interact with other people:

- in cooperative interactions
- in principal-agent problems

Being part of a group and categorizing other people as part of groups can change our beliefs on what the other person will do.

## Something more?

Simply being part of a group can affect behaviour by shifting the utility function:

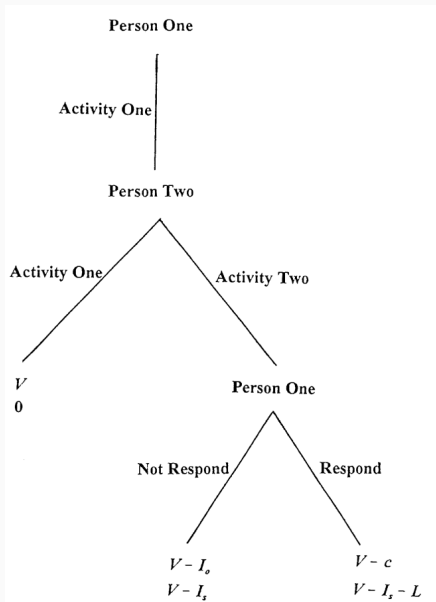
- Preferences
- Social norms

This often leads to the so-called "ingroup bias", where one favours a subject of his own group over someone from another group.

## Social identity theory (Akerlof and Kranton, 2000, 2010)

General idea: individuals belong to *groups*, they internalize context-related *norms* attached to their affiliations, and they derive *utility* from compliance with these norms.

- Person One and Two belong to the same Blue group, and the norm of the Blue group is to engage in Activity One.
- Person One gets material utility  $V$  by engaging in Activity One and Person Two gets material utility  $V$  by engaging in Activity Two.
- Person Two's internalization of the norm causes her to suffer a loss in utility  $I_s$  if she does not comply with the norm of its group - i.e. if she chooses Activity Two - where  $s$  stands for "self".
- Person One loses  $I_o$  if Person Two chooses Activity Two, where  $o$  stands for "other". We can interpret this loss as an identity externality.
- Person One can stop Activity Two at a cost  $c$ , and Person Two loses  $L$  from this action.





Four possible subgame perfect equilibrium outcomes:

- when  $c < I_0$  and  $I_S < V < I_S + L$ , Person One will deter Person Two from engaging in Activity Two.
- when  $c < I_0$  and  $V > I_S + L$ , Person One responds but will not deter Person Two from engaging in Activity Two.
- when  $c > I_0$  and  $V > I_S$ , Person One does not respond and Person Two engages in Activity Two.
- when  $V < I_S$ , Person Two does not engage in Activity Two regardless of Person One's response.

## A simple framework

One economic agent has to decide how much to contribute to a public good. His utility  $U$ :  $U_i = U_i(NC, C)$

Now, let us introduce group membership and distinguish between  $C(own)$ ,  $C(other)$  and  $C(nogroup)$ .

$C(own) > C(other) \rightarrow$  in-group bias or discrimination

## A simple framework, ctd.

$C(\text{own}) > C(\text{other}) = C(\text{nogroup}) \rightarrow$  In-group love

$C(\text{own}) = C(\text{nogroup}) > C(\text{other}) \rightarrow$  Out-group hate

**Conclusion I:** welfare effects are positive if in-group love is larger in magnitude than out-group hate.

## A simple framework, ctd.

Hidden assumption was that interactions are random: there is an equal chance of playing with an in-group as with an out-group. Let us relax this assumption.  $z$  is now the chance of playing with an in-group.

$$zC(\text{own}) - (1 - z)C(\text{other}) > C(\text{nogroup}) \Rightarrow \\ z(C(\text{own}) - C(\text{nogroup})) > (1 - z)(C(\text{nogroup}) - C(\text{other}))$$

**Conclusion II:** under homophily ( $z > 1/2$ ), it is sufficient that in-group love is equal to out-group hate that welfare effects of group identity are positive.

Three lab experiments on social identity where we assess if identity is actually relevant and if it is a force for good or for bad:

1. Contest game with artificial and natural identities (Chowdhury et al., 2016)
2. Public good game on prejudices (Castillo and Petrie, 2010)
3. Trust game with minimal group identities (Hargreaves Heap and Zizzo, 2009)

## The minimal group paradigm

1. By the group assignment rule, subjects are randomly assigned to non-overlapping groups on the basis of some trivial tasks.
2. No social interaction takes place between subjects.
3. Group membership is anonymous, no info is given on group members
4. No link between the subject's payoff and her choice.

Criterion 4 is violated in most economic experiments.

An intergroup contest game with group identity. Each subject  $i$  decides a level of "effort"  $x_{gi}$  over an endowment  $e$  where  $g$  is the group. Let  $X_g = \sum_i x_{gi}$  and  $X = \sum_g X_g$ .  $p_g$  is the probability of winning a prize  $V$  and  $\pi_{gi}$  the payoff.

$$p_g = \begin{cases} X_g/X & \text{if } X \neq 0 \\ 1/n & \text{otherwise} \end{cases}$$

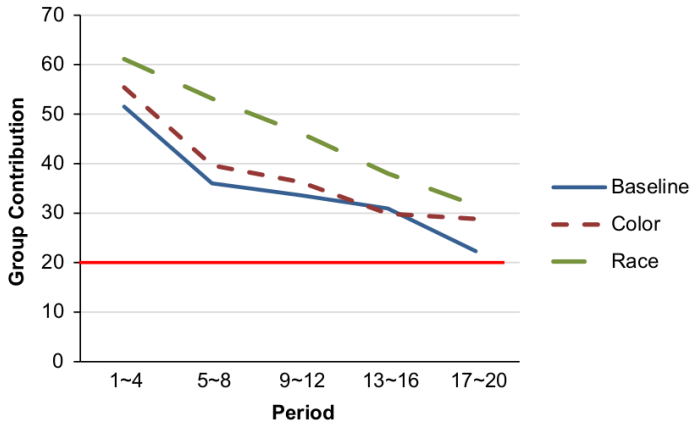
$$\pi_{gi} = p_g V + e - x_{gi}$$

What we already know (Abbink et al., 2010): in contests, subjects already exert more effort than predicted by the Nash Equilibrium (2x as high). In intergroup contests, conflict expenditures are even larger than among individuals (2x as high).

What if another layer of identity is added to the game?

- *Color treatment*: subjects are randomly assigned to Green and Blue groups.
- *Race treatment*: subjects are assigned to groups based on their ethnicity (Asian or Anglo-Saxon).





**Fig. 1.** Mean group effort over period by treatment.

Subjects play 3 stages of a public good game of 10 rounds each.

$$\pi_i = e - C_i + \alpha \sum_j C_j$$

where  $\pi_i$  is the payoff at each round of player  $i$ ,  $e$  her/his endowment and  $C_i$  her/his contribution to the public good. Nash equilibrium  $C_i = 0$ . Socially efficient outcome:  $C_i = e$ .

Who would you want to play this game with? Is identity relevant? Subjects express their preferences on this before Stage 3.

Treatments manipulate the information:

- *Contribution only*: subjects are informed about the contributions of each potential partner in the previous stages.
- *Photo only*: subjects see a photo of each potential partner.
- *Photo and contribution*: subjects see both.

# Castillo and Petrie, 2010, ctd.

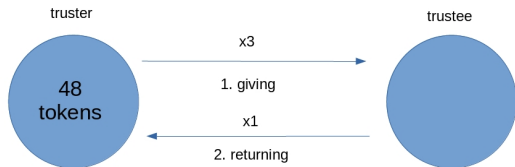
Dependent variable: rank (1 = highest, 19 = lowest) fixed-effects regression.

	Contribution Only	Photo Only	Contribution & Photo
Constant	0.85*** (0.000)	8.71*** (0.000)	1.14*** (0.000)
Expected rank	0.92*** (0.000)		0.90*** (0.000)
Male		0.57 (0.320)	-0.12 (0.630)
Black		2.23*** (0.000)	-0.21 (0.373)
Other		-0.48 (0.517)	-0.41 (0.244)
Black* male		0.15 (0.843)	0.24 (0.480)
Other* male		-0.48 (0.632)	0.20 (0.652)
Individual effects	yes	yes	yes
Within-R2	0.84	0.06	0.80
N	760	1140	1140

Note. p-Values in parentheses.

\* p-Value < 0.10. \*\* p-Value < 0.05. \*\*\* p-Value < 0.01.

This is evidence of *statistical discrimination* (Arrow, 1973).



Only one subgame perfect equilibrium: the trustee gives back zero to the truster, who in turn keeps everything for himself.

The socially efficient outcome: the truster gives every token to the trustee.

## Treatments

In experiments, in each treatment a choice parameter is manipulated. In this way, the change in behaviour invoked by specific manipulations will have causal interpretation.

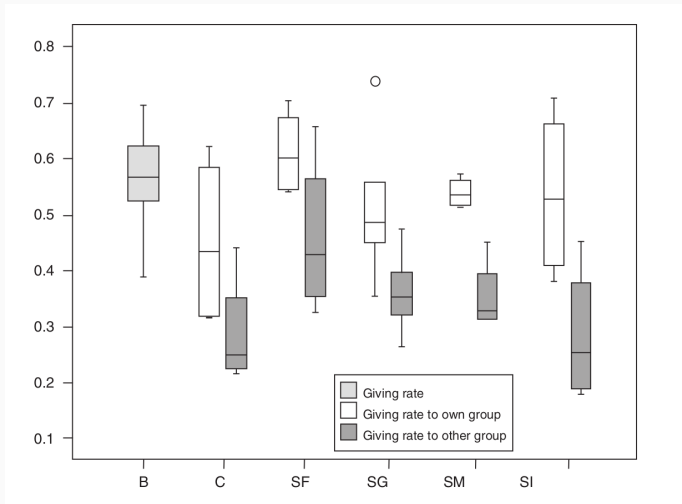
1. C. color group assignment (Red vs. Blue)
2. SG. group segregation (2x with in-group than out-group)
3. SF. group segregation with reduced framing (Blue vs. Not Blue)
4. SM. group segregation with reduced market
5. SI. group segregation with group incentives

## Market phase

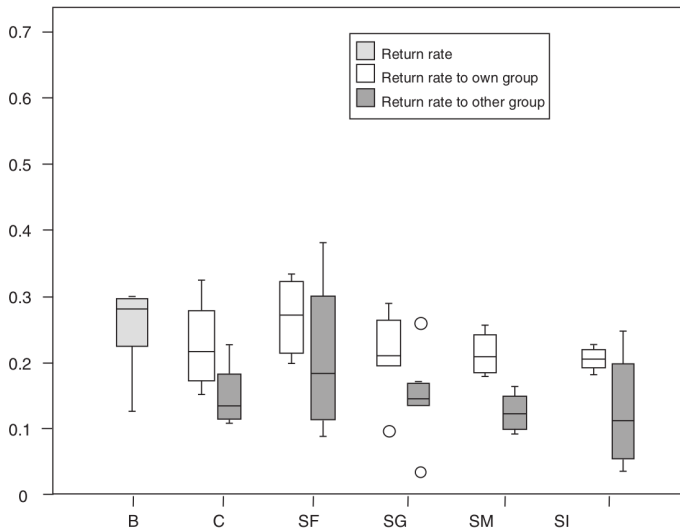
The experiment had 4 phases of 6 rounds each. After each phase, subjects entered a market for buying or selling their group membership.

1. They were given an endowment of 48 points and asked if they hypothetically wanted to stay in their group or switch to the other.
2. Depending on the choice, they would become potential sellers or buyers.
3. If they were switchers, they became potential buyers and had to state their WTP between 0 and 48.
4. If they were stayers, they became potential sellers and had to state their WTA between 0 and 48.
5. The market then operated as a Walrasian market (no. buyers = no. sellers).

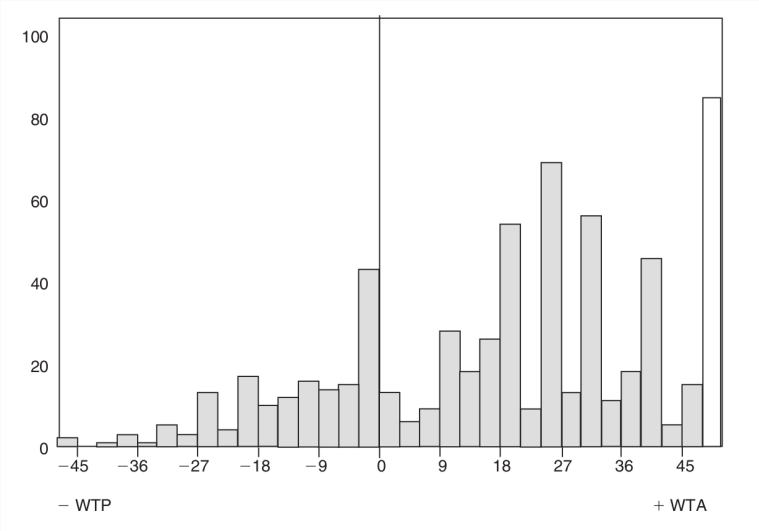
## Results on discrimination - figures







# The psychological value of the groups



## Is identity relevant?

YES. Based on the evidence, the more groups are natural and provided with meaning the more the influence of identity is strong (e.g., Ben-Ner et al., 2009, Goette et al., 2012).

- Identity increases conflict (Chowdhury, 2020)
- It determines in-group love in public good games (Balliet et al., 2014)
- It determines out-group hate in trust games (Balliet and Van Lange, 2014)

## Possible explanations

- We have seen Social Identity Theory. It originates from social psychology (Tajfel and Turner, 1979). Individuals categorize other individuals in groups, identify with them and derive a sense of self-esteem from group affiliation.
- Individuals have generalized expectations of reciprocity when they interact with individuals from their own group (Brewer, 1999, Yamagishi and Mifune, 2000).

## Is identity good or bad?

IT DEPENDS.

- From the interaction: 1) on matters of trust, identity seems mostly bad and at best not very relevant, 2) on pro-sociality, it seems to mostly increase aggregate pro-sociality, 3) on conflict, it exacerbates it. Most of all, it carries forward discrimination.
- However, also discrimination may be good sometimes. Positive discrimination for example may be a way for disadvantaged minorities to re-balance the score with advantaged majorities.

## Bibliography

Akerlof, G. A., & Kranton, R. E. (2010). Identity Economics: How Our Identities Shape Our Work, Wages, and Well-Being. Princeton University Press.

Charness, G., & Chen, Y. (2020). Social identity, group behavior, and teams. *Annual Review of Economics*, 12, 691-713

Chen, Y., & Li, S. X. (2009). Group identity and social preferences. *American Economic Review*, 99(1), 431-57

Chowdhury, S. M. (2021). The Economics of Identity and Conflict. In the *Oxford Research Encyclopedia of Economics and Finance*. Oxford University Press